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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,528	10/02/2003	Randolph Bullock	230 P 111	9327

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BOND, SCHOENECK & KING, PLLC
ONE LINCOLN CENTER
SYRACUSE, NY 13202-1355

EXAMINER	
ROMAN, LUIS ENRIQUE	
ART UNIT	**PAPER NUMBER**
2836	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/677,528	BULLOCK ET AL.	
	Examiner	Art Unit	
	Luis Roman	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Objections

Drawings

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the number at the bottom of Fig. 1. is not clear (36 or 38). Moreover neither of these numbers are mentioned in the specifications. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance. Appropriate correction is required.

Claim objections

Claim 1 is objected to because of the following informality, the usage of the acronym EMC. Notice that the first occurrence, in a claim, of an acronym must be accompanied by the full meaning of it.
Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 3, 5, 6, 8, 9, 10 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mikolajjezak et al. (6937454), in view of Tsai et al. (6937454).

Regarding claim 1 Mikolajjezak et al. discloses a universal serial bus (USB) interface, an improvement for EMC immunity comprising: a) a controller (Fig. 2 element 13) including first and second data lines, a power line, and a ground line (col. 3 lines 29-32 & Fig. 2 elements 17: D+, D-, Power, GND respectively); b) a choke (Fig. 2 element 23) comprising a ferrite core (col. 1 lines 47-49) through which said first and second data lines pass (col. 3 lines 34-37 & Fig. 2 element 13).
Mikolajjezak et al. does not disclose a choke through which said ground line pass; and c) wherein said power line is AC coupled to said ground line outside said choke.

Tsai et al. teaches a choke comprising a ferrite core (Fig. 1 element L2) through which said ground line pass (col. 2 lines 36-38); and c) wherein said power line is AC coupled to said ground line outside said choke (Fig. 3 through element C3).
It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Mikolajjezak et al. device with the Tsai et al. device features, to provide a configuration where the ground line passes through a ferrite core of a choke and wherein a power line is AC coupled to said ground line outside said choke through capacitor C3. The inclusion of inductances and capacitors provide filtering of unwanted noises and overvoltages.

Regarding claim 2 Mikolajjezak et al. in view of Tsai et al. discloses the improvement of claim 1.
Mikolajjezak et al. further discloses wherein said controller further includes a plurality of communication pins (Fig. 2 pins of element 13).

Regarding claims 3 & 5 Mikolajjezak et al. in view of Tsai et al. discloses the improvement of claim 1.
Regarding claim 3, each of said plurality of communications pins is terminated.
Regarding claim 5, it would have been obvious to terminate the first and second lines by capacitors to provide filtering of electromagnetic interference.

Regarding claim 6 Mikolajjezak et al. in view of Tsai et al. discloses the improvement of claim 1.
Mikolajjezak et al. further discloses wherein said power line is routed through high impedance (col. 3 lines 33-34 & Fig. 2 element 21).

Regarding claim 8 Mikolajjezak et al. discloses a universal bus (USB) interface including a serial interface controller (Fig. 2 element 13), an improvement for EMC immunity comprising: a) first, second, third, and fourth signal lines (Fig. 2 elements 17: D+, D-, Power, GND respectively) interconnected to said controller (col. 3 lines 29-32), and b) a choke (Fig. 2 element 23) comprising a ferrite core (col. 1 lines 47-49) through which each of said first, second (col. 3 lines 34-37 & Fig. 2) signal lines pass.

Regarding claim 9 Mikolajjezak et al. in view of Tsai et al. discloses the improvement of claim 8.
Mikolajjezak et al. further discloses wherein said IC further includes a plurality of communication pins (Fig. 2 pins of element 13).

Regarding claim 10 Mikolajjezak et al. in view of Tsai et al. discloses the improvement of claim 9. Please refer to above rejection of claims 3 & 5.

Regarding claim 12 Mikolajjezak et al. in view of Tsai et al. discloses the improvement of claim 8. Please refer to above rejection of claims 3 & 5.

Claims 4 & 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mikolajjezak et al. (6937454), in view of Tsai et al. (6937454) and Ruckman (4571656).

Regarding claim 4 Mikolajjezak et al. in view of Tsai et al. discloses the improvement of claim1.
Mikolajjezak et al. in view of Tsai et al. does not disclose further comprising a power source having a bypass capacitor and a transorb device.
Ruckman teaches further comprising a power source having a bypass capacitor (col. 2 lines 44-46 & Fig. element 38) and a transorb device (col. 1 lines 32-40 & Fig. element 26).
It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Mikolajjezak et al. in view of Tsai et al. device with the Ruckman device features, since the transorb provides transient protection and the capacitor adds EMI-RFI filtering.

Regarding claim 11 Mikolajjezak et al. in view of Tsai et al. discloses the improvement of claim 8.
Ruckman teaches further comprising a power source having a bypass capacitor (col. 2 lines 44-46 & Fig. element 38) and a transorb (col. 1 lines 32-40 & Fig. element 26) device.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikolajjezak et al. (6937454), in view of Tsai et al. (6937454), Ohbayashi (6452269) and Pinzarrone et al. (5956158).

Regarding claim 7 Mikolajjezak et al. in view of Tsai et al. discloses the improvement of claim 1.
Mikolajjezak et al. in view of Tsai et al. does not disclose said controller further including a reset input and a strobe output, wherein said power line, said reset input, and said strobe output are filtered by RC networks to prevent transients from inducing modified signal states.
Ohbayashi teaches said controller further including a reset input (col. 6 lines 36-40 & Fig. 21 pin 84) and a strobe output (col. 6 lines 36-40 & Fig. 21 pins 14, 16, 64, 66).
It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Mikolajjezak et al. in view of Tsai et al. device with the Ohbayashi device features, to provide the controller with a complete set of functions which include several strobe outputs to control several devices.
Pinzarrone et al. teaches providing RC networks (Fig. 9 element 682) to prevent transients from inducing modified signal states (col. 7 lines 7-9). It would have been obvious to a person having ordinary skill in the art to apply RC networks as taught by Pinzarrone et al. to said reset input, and said strobe output of the device of Mikolajjezak et al. and Tsai et al. for the advantage noted above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luis E. Román whose telephone number is (571) 272 – 5527. The examiner can normally be reached on Mon – Fri from 7:15 AM to 3:45 PM.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 x 36. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
Information regarding the status of an application may be obtained from Patent Application Information Retrieval (PAIR) system.
Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Luis E. Román
Patent Examiner
Art Unit 2836

LR/102005

PHUONG T. VU
PRIMARY EXAMINER